

SEQUENCE LISTING

<110> Burch, Ronald
Sackler, David

<120> Contraceptive Antibody Vaccines

<130> 6750-018-999

<140> 09/831,631

<141> 2001-05-10

<160> 70

<170> PatentIn version 3.0

<210> 1

<211> 16

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<223> Description of artificial sequence: Primer for PCR

<400> 1

aacagctatg accatg

16

<210> 2

<211> 20

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<223> Description of artificial sequence: Primer for PCR

<400> 2

gaattcatgg cttgggtgtg

20

<210> 3

<211> 14

<212> PRT

<213> Artificial

<220>

<221> misc_feature

<223> Description of artificial sequence: CDR Drived peptide

<220>

<221> SITE

<222> (1)..(1)

<223> Xaa = biotin

<400> 3

Xaa Thr Ala Lys Ala Ser Gln Ser Val Ser Asn Asp Val Ala

1

5

10

<210> 4

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<211> 10
<212> PRT
<213> Artificial

<220>
<221> misc_feature
<223> Description of artificial sequence: CDR Drived peptide

<220>
<221> site
<222> (1)..(1)
<223> Xaa = biotin

<400> 4
Xaa Ile Tyr Tyr Ala Ser Asn Arg Tyr Thr
1           5           10

<210> 5
<211> 12
<212> PRT
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<220>
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<223> Description of artificial sequence: CDR Drived peptide

<220>
<221> site
<222> (1)..(1)
<223> Xaa = biotin

<400> 5
Xaa Phe Ala Gln Gln Asp Tyr Ser Ser Pro Leu Thr
1           5           10

<210> 6
<211> 8
<212> PRT
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<220>
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<223> Description of artificial sequence: CDR Drived peptide

<220>
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<222> (1)..(1)
<223> Xaa = biotin

<400> 6
Xaa Phe Thr Asn Tyr Gly Met Asn
1           5

<210> 7
<211> 20
<212> PRT
<213> Artificial

<220>
<221> misc_feature
<223> Description of artificial sequence: CDR Drived peptide

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<220>
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 <222> (1)..(1)
 <223> Xaa = biotin

<400> 7
 Xaa Ala Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Asp
 1 5 10 15
 Asp Phe Lys Gly
 20

<210> 8
 <211> 12
 <212> PRT
 <213> Artificial

<220>
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 <223> Description of artificial sequence: CDR Drived peptide

<220>
 <221> site
 <222> (1)..(1)
 <223> Xaa = biotin

<400> 8
 Xaa Ala Arg Ala Tyr Tyr Gly Lys Tyr Phe Asp Tyr
 1 5 10

<210> 9
 <211> 221
 <212> DNA
 <213> Artificial

<220>
 <221> misc_feature
 <223> Description of Artificial Sequence: Sperm cell specific epitope

<400> 9
 gaattccagc cttcaggtga acatggctcc ggtgaacagc cttctggtga gcaggcctcg 60
 ggtgaacagc cttcaggtga gcacgcttca ggggaacagg cttcaggtgc accaatttca 120
 agcacatcta caggcacaat attaaattgc tacacatgtg cttatatgaa tgatcaagga 180
 aaatgtcttc gtggagaggg aacctgcatc actcagaatt c 221

<210> 10
 <211> 69
 <212> PRT
 <213> Artificial

<220>
 <221> misc_feature
 <223> Description of Artificial Sequence: Sperm cell specific epitope

<400> 10
 Gln Pro Ser Gly Glu His Gly Glu Gln Pro Ser Gly Glu Gln Ala Ser
 1 5 10 15
 Gly Glu Gln Pro Ser Gly Glu His Ala Ser Gly Glu Gln Ala Ser Gly
 20 25 30
 Ala Gln Ile Ser Ser Thr Ser Thr Gly Thr Ile Leu Asn Cys Tyr Thr
 35 40 45

Cys Ala Tyr Met Asn Asp Gln Gly Lys Cys Leu Arg Gly Glu Gly Thr
 50 55 60

Cys Ile Thr Gln Asn
 65

<210> 11
 <211> 75
 <212> DNA
 <213> Artificial

<220>
 <221> misc_feature
 <223> Description of Artificial Sequence: Cloning primers for SP10

<400> 11
 gaattccagc cttcaggtga acatgggtcc ggtgaacagc cttctgggtga gcaggcctcg 60
 ggtgaacagc cttag 75

<210> 12
 <211> 75
 <212> DNA
 <213> Artificial

<220>
 <221> misc_feature
 <223> Description of Artificial Sequence: Cloning primers for SP10

<400> 12
 gtgagcacgc ttcaggggaa cagccttcag gtgcaccaat ttcaagcaca tctacaggca 60
 caatattaaa ttgct 75

<210> 13
 <211> 70
 <212> DNA
 <213> Artificial

<220>
 <221> misc_feature
 <223> Description of Artificial Sequence: Cloning primers for SP10

<400> 13
 acacatgtgc ttatatgaat gatcaaggaa aatgtcttcg tggagaggga acctgcatca 60
 ctcagaattc 70

<210> 14
 <211> 70
 <212> DNA
 <213> Artificial

<220>
 <221> misc_feature
 <223> Description of Artificial Sequence: Cloning primers for SP10

<400> 14
 acacagcagc ttatatgaat gatcaaggaa aagcacttcg tggagaggga accgcaatca 60
 ctcagaattc 70

<210> 15
 <211> 79

<212> DNA
 <213> Artificial

 <220>
 <221> misc_feature
 <223> Description of Artificial Sequence: Cloning primers for SP10

 <400> 15
 gaattctgag tgatgcaggt tccctctcca cgaagacatt ttccttgatc attcatataa 60
 gcacatgtgt agcaattta 79

 <210> 16
 <211> 79
 <212> DNA
 <213> Artificial

 <220>
 <221> misc_feature
 <223> Description of Artificial Sequence: Cloning primers for SP10

 <400> 16
 gaattctgag tgattgcggt tccctctcca cgaagtgctt tttgatgatc attcatataa 60
 gctgctgtgt agcaattta 79

 <210> 17
 <211> 75
 <212> DNA
 <213> Artificial

 <220>
 <221> misc_feature
 <223> Description of Artificial Sequence: Cloning primers for SP10

 <400> 17
 atattgtgcc tgtagatgtg cttgaaattg gtgcacctga agcctgttcc cctgaagcgt 60
 gtcacctga aggct 75

 <210> 18
 <211> 67
 <212> DNA
 <213> Artificial

 <220>
 <221> misc_feature
 <223> Description of Artificial Sequence: Cloning primers for SP10

 <400> 18
 gttctcccga ggctgtctca ccagaaggct gttcacccga gccatgttca cctgaaggct 60
 ggaattc 67

 <210> 19
 <211> 210
 <212> DNA
 <213> Artificial

 <220>
 <221> misc_feature
 <223> Description of Artificial Sequence: Sperm cell specific epitope M

SA-6

<400> 19
 gtcggcagcc tccgaagcag cccgctccag agcccgtgc tccgaccgct cgtccagagc 60
 agcctctgct tgctgttcct cttgctgcga tacagctgcg gcgacggcag ctgcagccga 120
 cgatactgcg acttgacggt gtgccggcga atgtacttgc tgctgcgatt cacggaccgc 180
 ccgctcccgc agacgtgctg cgtcttgagc 210

<210> 20
 <211> 70
 <212> PRT
 <213> Artificial

<220>
 <221> misc_feature
 <223> Description of Artificial Sequence: Sperm cell specific epitope M
 SA-6

<400> 20
 Gln Pro Ser Glu Ala Ser Ser Gly Glu Val Ser Gly Asp Glu Ala Gly
 1 5 10 15
 Glu Gln Val Ser Ser Glu Thr Asn Asp Lys Glu Asn Asp Ala Met Ser
 20 25 30
 Thr Pro Leu Pro Ser Thr Ser Ala Ala Ile Thr Leu Asn Cys His Thr
 35 40 45
 Cys Ala Tyr Met Asn Asp Asp Ala Lys Cys Leu Arg Gly Glu Gly Val
 50 55 60
 Cys Thr Thr Gln Asn Ser
 65 70

<210> 21
 <211> 45
 <212> DNA
 <213> Artificial

<220>
 <221> misc_feature
 <223> Description of Artificial Sequence: Oligomer from MSA 63

<400> 21
 gtcggcagcc tccgaagcag cccgctccag agcccgtgc tccga 45

<210> 22
 <211> 45
 <212> DNA
 <213> Artificial

<220>
 <221> misc_feature
 <223> Description of Artificial Sequence: Oligomer from MSA 63

<400> 22
 agcccgtgc tccgaccgct cgtccagagc agcctctgct tgctg 45

<210> 23
 <211> 45
 <212> DNA
 <213> Artificial

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<220>
<221> misc_feature
<223> Description of Artificial Sequence: Oligomer from MSA 63

<400> 23
agcctctgct tgctgttcct cttgctgcga tacagctgcg gcgac 45

<210> 24
<211> 45
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description of Artificial Sequence: Oligomer from MSA 63

<400> 24
tacagctgcg gcgacggcag ctgcagccga cgatactgcg acttg 45

<210> 25
<211> 45
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description of Artificial Sequence: Oligomer from MSA 63

<400> 25
cgatactgcg acttgacggt gtgcacgcga atgtacttgc tgctg 45

<210> 26
<211> 45
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description of Artificial Sequence: Oligomer from MSA 63

<400> 26
atgtacttgc tgctgcgatt cacggacgcg ccgctccgcg agacg 45

<210> 27
<211> 45
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description of Artificial Sequence: Oligomer from MSA 63

<400> 27
cgattcacgg acgcgcgcgt cccgcagacg tgctgcgtct tgagc 45

<210> 28
<211> 17

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<212> PRT
 <213> Artificial

<220>
 <221> misc_feature
 <223> Description of Artificial Sequence: Consensus sequence

<400> 28
 Gln Pro Ser Glu Ala Ser Ser Gly Glu Val Ser Gly Asp Glu Ala Gly
 1 5 10 15
 Glu

<210> 29
 <211> 384
 <212> DNA
 <213> Artificial

<220>
 <221> misc_feature
 <223> Description of Artificial Sequence: Consensus sequence

<400> 29
 atggcttggt gttggacctt gctattcctg atggcagctg cccaaagtgc ccaagcagat 60
 atgcaaatga cacaaagtcc tagtagtttg agtgctagtg tgggagatca agtgacaatc 120
 acatgtcggg ctagtcaaag tatcagtaac tgtttggctt ggtatcaaca aaagcctgga 180
 aaggctccta agttgttgat ctatgctgct agtagtttgg agagtggagt gcctagtcgg 240
 ttcagtggaa gtggaagtgg aacacggttc accttgacca tgagtagttt gcaacctgag 300
 gatttcgcta cctattattg tcaacaatat aacagtttgc cttggacctt cggacaagga 360
 accaaggtgg agatcaagga attc 384

<210> 30
 <211> 417
 <212> DNA
 <213> Artificial

<220>
 <221> misc_feature
 <223> Description of Artificial Sequence: Consensus sequence

<400> 30
 atggcttggt tgtggacctt gctattcctg atggcagctg cccaaagtgc ccaagcacag 60
 gttcagctgg tgcagtgtgg cgctgaggtg aagaagcctg gcgcttctgt gaagggtgtct 120
 tgcaaggctt ctggctacac attcacatct tacgctatat cttggaattg ggtgaggcag 180
 gctcctggcc agggcctgga gtggatgggc tggataaatg gaaatggaga taaaaattac 240
 gccagaagt tccagggaag ggtgactata actgctgata cttctacttc tactgcttac 300
 atggagctgt cttctctgag gtctgaggat actgctgttt actactgcgc tagggctcct 360
 ggctacggct ctgattattg gggacaggga acactggtta cagtttcttc tgaattc 417

<210> 31
 <211> 63
 <212> DNA
 <213> Artificial

<220>
 <221> misc_feature
 <223> Description of Artificial Sequence: Consensus sequence


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<400> 31
gacattgtga tgtcacagtc tccatcctcc ctagctgtgt cagttggaga gaaggttact 60
atg 63

<210> 32
<211> 74
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description of Artificial Sequence: Consensus sequence

<400> 32
gcaagctcat agtaaccttc tctccaactg acacacgata gggaggatgg agactgtgac 60
atcacaatgt ctgc 74

<210> 33
<211> 84
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Construct for MSA1 and MSALVAC-
1

<400> 33
agctgcgtcg gcagcctccg aagcagcccg ctccagagcc cgctgctggc atggtaccag 60
cagaaaccag ggcagtctcc taaa 84

<210> 34
<211> 72
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Construct for MSA1 and MSALVAC-
1

<400> 34
ctgccctggt ttctgctggt accatcggag cagcgggctc tgcggagcgg gctgcttcgg 60
acggctgccg ac 72

<210> 35
<211> 78
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Construct for MSA1 and MSALVAC-
1

<400> 35

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gacattgtga tgtcacagtc tccatcctcc ctagctgtgt cagttggaga gaaggttact 60
gtgagcgcta agtccagt 78

<210> 36
<211> 75
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Construct for MSA1 and MSALVAC-
1

<400> 36
gagagccttt tatatagtag caatcaaaag atctacttgg cctggtacca gcagaaacca 60
gggcagtctc ctaa 75

<210> 37
<211> 67
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Construct for MSA1 and MSALVAC-
1

<400> 37
ctgctgattt actgggcatc cactagggaa tctggggtcc ctgacgctt cacaggctgg 60
atctggg 67

<210> 38
<211> 68
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Construct for MSA1 and MSALVAC-
1

<400> 38
gcacagcaat attatagata tctcggacgt tcggtggagc caccaagctg caaatcaaac 60
cggaattc 68

<210> 39
<211> 69
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Construct for MSA1 and MSALVAC-
1

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<400> 39
accgcctgtg aagcgatcag gcaccccaga ttccctagtg gatgcccagt aaatcagcag      60
tttaggaga                                         69

<210> 40
<211> 77
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Construct for MSA1 and MSALVAC-
1

<400> 40
ctgccctggt ttctgctggt accaggccaa gtagatcttt tgagattgct actatataaa      60
aggctctgac tggactt                                         77

<210> 41
<211> 78
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Construct for MSA1 and MSALVAC-
1

<400> 41
agcgctcata gtaaccttct ctccaactga cacagctagc gacgatcgag actgtgacat      60
cacaatgtct gcttgggc                                         78

<210> 42
<211> 78
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Construct for MSA1 and MSALVAC-
1

<400> 42
gaattcccgt ttgatttcca gcttggtgcc tccaccgaac gtccgaggat atctataata      60
ttgctgtgcg taataaac                                         78

<210> 43
<211> 57
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Construct for MSA1 and MSALVAC-
1

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<400> 43
 agagatttga gtctgaccat cagcagtgtg aaggctgaag acgtggcagt ttattac 57

 <210> 44
 <211> 57
 <212> DNA
 <213> Artificial

 <220>
 <221> misc_feature
 <223> Description for Artificial Sequence: Construct for MSA1 and MSALVAC-1

 <400> 44
 tgccaggtct tcagccttga cactgctgat ggtgagagtg aaatctgtcc cagatcc 57

 <210> 45
 <211> 66
 <212> DNA
 <213> Artificial

 <220>
 <221> misc_feature
 <223> Description for Artificial Sequence: Construct for MSA1 and MSALVAC-1

 <400> 45
 tcgtgccagt tcctcgtcga ctagctcttc gactagctcc tgctgctctt gtcggtcacg 60
 gaattc 66

 <210> 46
 <211> 75
 <212> DNA
 <213> Artificial

 <220>
 <221> misc_feature
 <223> Description for Artificial Sequence: Construct for MSA1 and MSALVAC-1

 <400> 46
 gaattccgtg accgacaaga gcagcaggag ctagtcgaag agctggtcga cgaggaactg 60
 gcacgacggg ttcgt 75

 <210> 47
 <211> 80
 <212> DNA
 <213> Artificial

 <220>
 <221> misc_feature
 <223> Description for Artificial Sequence: Constructs for LDH-C4

 <400> 47
 gaattcatgg cttgggtgtg gaccttgcta ttctgatgg cagctgccca aagtgcccaa 60

gcacagatcc agttggtgca

80

<210> 48

<211> 79

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<223> Description for Artificial Sequence: Constructs for LDH-C4

<400> 48

gtctggacct gagctgaaga agcctggaga gacagtcaag atctccgcta aggcttctgg 60
gtataccttc acaaactag 79

<210> 49

<211> 80

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<223> Description for Artificial Sequence: Constructs for 2CAVHCOL1

<400> 49

gaatgaactg ggtgaagcag gctccaggaa agggtttaaa gtggatgggc tggataaaca 60
cctacactgg agagccaaca 80

<210> 50

<211> 80

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<223> Description for Artificial Sequence: Constructs for 2CAVHCOL1

<400> 50

tatgctgatg acttcaaggg acggtttgcc ttctctttgg aaacctctgc cagcactgcc 60
tatttgcaag atcaacacct 80

<210> 51

<211> 70

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<223> Description for Artificial Sequence: Constructs for 2CAVHCOL1

<400> 51

caaaaatgag gacacggcta catatttcgc tgcaagagcc tactatggta aatactttga 60
ctacgaattc 70

<210> 52

<211> 49

<212> DNA

<213> Artificial

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<220>
<221> misc_feature
<223> Description for Artificial Sequence: Constructs for 2CAVHCOL1

<400> 52
gaattcgtag tcaaagtatt taccatagta ggctcttgca gcaaatatg 49

<210> 53
<211> 81
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Constructs for 2CAVHCOL1

<400> 53
tagcctgtgt ctcatTTTTT gaggttggtg atctgcaaat aggcagtgtt ggcagaggtt 60
tccaaagaga aggcaaaccg t 81

<210> 54
<211> 80
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Constructs for 2CAVHCOL1

<400> 54
cccttgaagt catcagcata tggtggctct ccagtgtagg tgtttatcca gcccatccac 60
tttaaaccct ttcttgagc 80

<210> 55
<211> 81
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Constructs for 2CAVHCOL1

<400> 55
ctgcttcacc cagttcatTC catagtttgt gaaggtatac ccagaagcct tagcggagat 60
cttgactgtc tctccaaggc t 81

<210> 56
<211> 100
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Constructs for 2CAVHCOL1

<400> 56
tcttcagctc aggtccagac tgcaccaact ggatctgtgc ttgggcactt tcggcagctg 60
ccatcaggaa tagcaaggtc cacaccaag ccatgaattc 100

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<210> 57
<211> 63
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Constructs for 2CAVHCOL1

<400> 57
agtatgtga tgacccagac tcccaaattc ctgcttgat cagcaggaga cagggttacc 60
ata 63

<210> 58
<211> 64
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Constructs for 2CAVHCOL1

<400> 58
acctgcaagg ccagtcagag tgtgagtaat gatgtagctt ggtaccaaca gaaaaccagg 60
gcag 64

<210> 59
<211> 69
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Constructs for 2CAVLCOL1

<400> 59
tctcctaaac tgctgatata ctatgcatcc aatcgctaca ctggagtccc tgategcttc 60
actggcagt 69

<210> 60
<211> 64
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Constructs for 2CAVLCOL1

<400> 60
ggatatggga cggatttcac tttcaccatc agcactgtgc aaggctgaag acctggcagt 60
ttat 64

<210> 61
<211> 69
<212> DNA
<213> Artificial

<220>

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<221> misc_feature
<223> Description for Artificial Sequence: Constructs for 2CAVLCOL1

<400> 61
ttctgycagc aggattatag ctctccgctc accttcggtg ctgggaccaa gctggacctg      60
aaagaattc                                     69

<210> 62
<211> 78
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Constructs for 2CAVLCOL1

<400> 62
gaattctttc agctccagct tgggtcccagc accgaacgtg agcggagagc tataatcctg      60
ctgacagaaa taaactgc                                     78

<210> 63
<211> 63
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Constructs for 2CAVLCOL1

<400> 63
caggtcttca gcttgcacag tgctgatggt gaaagtgaaa tccgtcccat atccactgcc      60
agt                                             63

<210> 64
<211> 69
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Constructs for 2CAVLCOL1

<400> 64
gaagcgatca gggactccag tgtagcgatt ggatgcatag tatatcagca gtttaggaga      60
ctgccctgg                                     69

<210> 65
<211> 63
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Constructs for 2CAVLCOL1

<400> 65
tttctgttgg taccaagcta catcattact cacactctga ctggccttgc tggttatggt      60
aac                                             63

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<210> 66
<211> 63
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Constructs for 2CAVLCOL1

<400> 66
cctgtctcct gctcatacaa gcaggaattt gggagtctgg gtcatacaca tacttgcttg      60
ggc                                                                    63

<210> 67
<211> 68
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Constructs for 2CAVLCOL1

<400> 67
ttcgctcagc aggattatag ctctccgctc acgttcggtg ctgggaccaa gctggagctg      60
aaagaatc                                                                    68

<210> 68
<211> 78
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Constructs for 2CAVLCOL1

<400> 68
gaattctttc agctccagct tggctcccagc accgaacgtg agcggagagc tataatcctg      60
ctgagcgaaa taaactgc                                                                    78

<210> 69
<211> 399
<212> DNA
<213> Artificial

<220>
<221> misc_feature
<223> Description for Artificial Sequence: Constructs for 2CAVLCOL1

<220>
<221> CDS
<222> (1)..(399)

<400> 69
atg gct tgg gtg tgg acc ttg cta ttc ctg atg gca gct gcc caa agt      48
Met Ala Trp Val Trp Thr Leu Leu Phe Leu Met Ala Ala Ala Gln Ser
1          5          10          15

```

```

gcc caa gca gac att gtg atg tca cag tct cca tcc tcc cta gct gtg      96
Ala Gln Ala Asp Ile Val Met Ser Gln Ser Pro Ser Ser Leu Ala Val
      20      25      30
tca gtt gga gag aag gtt act atg agc tgc aag tcc agt cag agc ctt      144
Ser Val Gly Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu
      35      40      45
tta tat agt agc aat caa aag atc tac ttg gcc tgg tac cag cag aaa      192
Leu Tyr Ser Ser Asn Gln Lys Ile Tyr Leu Ala Trp Tyr Gln Gln Lys
      50      55      60
cca ggg cag tct cct aaa ctg ctg att tac tgg gca tcc act agg gaa      240
Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu
      65      70      75      80
tct ggg gtc cct gat cgc ttc aca ggc ggt gga tct ggg aca gat ttc      288
Ser Gly Val Pro Asp Arg Phe Thr Gly Gly Gly Ser Gly Thr Asp Phe
      85      90      95
act ctc acc atc agc agt gtg aag gct gaa gac ctg gca gtt tat tac      336
Thr Leu Thr Ile Ser Ser Val Lys Ala Glu Asp Leu Ala Val Tyr Tyr
      100      105      110
tgt cag caa tat tat aga tat cct cgg acg ttc ggt gga ggc acc aag      384
Cys Gln Gln Tyr Tyr Arg Tyr Pro Arg Thr Phe Gly Gly Gly Thr Lys
      115      120      125
ctg gaa atc aaa cgg
Leu Glu Ile Lys Arg
      130

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<210> 70

<211> 133

<212> PRT

<213> Artificial

<220>

<221> misc_feature

<223> Description for Artificial Sequence: Constructs for 2CAVLCOL1

<400> 70

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Met Ala Trp Val Trp Thr Leu Leu Phe Leu Met Ala Ala Ala Gln Ser
1      5      10      15
Ala Gln Ala Asp Ile Val Met Ser Gln Ser Pro Ser Ser Leu Ala Val
      20      25      30
Ser Val Gly Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu
      35      40      45
Leu Tyr Ser Ser Asn Gln Lys Ile Tyr Leu Ala Trp Tyr Gln Gln Lys
      50      55      60
Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu
      65      70      75      80
Ser Gly Val Pro Asp Arg Phe Thr Gly Gly Gly Ser Gly Thr Asp Phe
      85      90      95
Thr Leu Thr Ile Ser Ser Val Lys Ala Glu Asp Leu Ala Val Tyr Tyr
      100      105      110
Cys Gln Gln Tyr Tyr Arg Tyr Pro Arg Thr Phe Gly Gly Gly Thr Lys
      115      120      125

```

Leu Glu Ile Lys Arg
130